

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDGAR C. ROBINSON,
LEONARD FLEMING
and DANIEL M. FRASER

Appeal No. 1999-0036
Application 08/394,012¹

ON BRIEF

Before MEISTER, FRANKFORT and STAAB, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 9, which are

¹ Application for patent filed February 21, 1995. According to appellants, this application is a continuation-in-part of Application 08/089,763 filed on July 9, 1993, now U.S. Patent No. 5,391,075 issued February 21, 1995

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all of the claims remaining in the application. Claim 10 has been canceled.

Appellants' invention relates to a burner and heat exchanger combination, wherein the burner is surrounded by the heat exchanger and the heat exchanger includes a plurality of flutes surrounding the burner. A copy of independent claim 1 can be found in the Appendix to appellants' brief.

The prior art references relied upon by the examiner in rejecting the appealed claims are:

Daugirda et al. (Daugirda)	3,823,704	July 16, 1974
Landis	3,947,218	Mar. 30, 1976
Krieger	4,971,027	Nov. 20, 1990

Claims 1 through 4 stand rejected under 35 U.S.C. § 103 as being unpatentable over Daugirda in view of Krieger.

Claims 5 through 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Daugirda in view of Krieger as applied to claims 1 through 4 above, and further in view of Landis.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejections and the conflicting viewpoints advanced by the examiner and appellants regarding the

rejections, we make reference to the final rejection (Paper No. 12, mailed May 16, 1997) and the examiner's answer (Paper No. 20, mailed May 27, 1998) for the reasoning in support of the rejections, and to appellants' brief (Paper No. 19, filed February 23, 1998) for the arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we have made the determinations which follow.

Looking first at the examiner's rejection of claims 1 through 4 under 35 U.S.C. § 103, we note, with respect to independent claim 1, that the examiner has taken the position that Daugirda discloses the claimed subject matter except for the use of an air aspirated nozzle and the use of flutes on the heat exchanger. The examiner notes that Krieger discloses the use of flutes on the surface of a heat exchanger (14) to form a larger heat transfer surface. From the collective teachings of Daugirda and Krieger, the examiner concludes that it would have been obvious to one of ordinary skill in the art to modify the structure of Daugirda to incorporate a fluted surface to the heat exchange structure, i.e., to

each of the tubes (10) seen in Daugirda in place of the fins thereon, so as to increase the heat transfer surface. As for the air aspirated nozzle required in appellants' claim 1, the examiner has taken the position that the specific type of nozzle is considered to be a matter of design choice.

After a review of the combined teachings of Daugirda and Krieger, even if we accept the examiner's conclusions that it would have been obvious to one of ordinary skill in the art to provide the burner/heat exchanger of Daugirda with an air aspirated nozzle as a matter of design choice and with fluted tubes following the broad teachings and concepts found in Krieger, we must agree with appellants (brief, pages 6-7) that the resulting structure would not be that which is set forth in claim 1 on appeal.

Appellants' claim 1 specifies that the heat exchanger includes a plurality of flutes surrounding the burner and that said flutes have an inside and outside surface area. See, for example, Figure 7A and 7B of the application drawings. In addition, claim 1 sets forth that the burner system therein has a water supply to supply water under pressure to the heat exchanger, and to circulate said water through said heat exchanger. The last clause of claim 1 then specifies

“said inside area [sic, inside surface area] of said flutes being exposed to the heat produced by said burner and said outside area [sic, outside surface area] of said flutes being exposed to the water circulated through said heat exchanger.”

In Daugirda as modified by the examiner the fluted tubes of the heat exchanger will surround the combustion region of the burner and carry water between the inlet-outlet header (26) and the return header (28). Thus, it appears to us that in the modified Daugirda system the outside surface area of the flutes will be exposed to the heat produced by the burner, while the inside surface area of the flutes will be exposed to the water circulated through the heat exchanger, the exact opposite of what is required in appellants' claim 1 on appeal. Accordingly, since a consideration of the collective teachings of Daugirda and Krieger would not have made the subject matter as a whole of claim 1 on appeal obvious to one of ordinary skill in the art at the time of appellants' invention, we must refuse to sustain the examiner's rejection of claim 1, and of dependent claims 2 through 4, under 35 U.S.C. § 103.²

We have also reviewed the teachings of the additional reference to Landis applied by the examiner against dependent claims 5 through 9 on appeal. However, we find nothing in this patent which alters our view as stated above with regard to the basic combination of Daugirda

² During any further prosecution of this application before the examiner, appellants should consider changing the introductory portion of claim 1 from "A burner" to -- A burner system comprising a burner having an air aspirated nozzle...--, since it is readily apparent from reading claim 1 that this claim is directed to a combination of a burner and a heat exchanger, not to the burner *per se*. The preamble or introductory portions of dependent claims 2 through 9 should likewise be changed to more clearly reflect that the claimed subject matter is a -- burner system --.

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and Krieger, that is, the patent to Landis does not supply that which we have found to be lacking in the examiner's combination of Daugirda and Krieger. Thus, the examiner's rejection of claims 5 through 9 under 35 U.S.C. § 103 will likewise not be sustained.

In view of the foregoing, the examiner's decision rejecting claims 1 through 9 of the present application under 35 U.S.C. § 103 is reversed.

REVERSED

JAMES M. MEISTER)	
Administrative Patent Judge)	
)	
)	BOARD OF PATENT
)	APPEALS AND
CHARLES E. FRANKFORT)	INTERFERENCES
Administrative Patent Judge)	
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LAWRENCE J. STAAB)	
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